

## AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (currently amended) An electrical signalling system, the electrical signalling system comprising:

a modulator, arranged to accept information and produce an alternating signal comprising ~~containing~~ repeated rising and falling edges in which the information is encoded, the encoding being by way of a the time difference between at least one of consecutive rising edges and ~~or~~ consecutive falling edges; and

a transmission path for the alternating signal from the modulator to a demodulator,

wherein the demodulator is arranged to detect a the signal edge and store a record of the alternating signal around the signal ~~that~~ edge, and to compare a subsequent part of the alternating signal with the ~~that~~ record ~~thereby~~ to detect a like signal edge and detect the time difference between the signal edge and the like signal edge ~~edges~~.

2. (currently amended) The ~~An~~ electrical signalling system according to claim 1, wherein ~~in~~ ~~which~~ the record is in the form of a digitized ~~digitised~~ version of the alternating signal.

3. (currently amended) The ~~An~~ electrical signalling system according to claim 1 ~~or claim 2~~, wherein ~~in which~~ the record is compared with the ~~the~~ ~~[[a]]~~ subsequent part of the alternating signal to detect the time difference between like signal edges.

4. (currently amended) The ~~An~~ electrical signalling system according to claim 3, wherein ~~in~~ ~~which~~ a second like signal edge is detected notwithstanding noise-induced differences between the subsequent part of the alternating signal and the record.

5. (currently amended) ~~The~~ An electrical signalling system according to claim 4, wherein in  
which an the error limit is measured by way of an rms value of the time difference ~~in the signals~~.

6. (currently amended) ~~The~~ An electrical signalling system according to claim 5, wherein in  
which the rms value of the time difference ~~in the signals~~ is calculated for a range of possible time  
differences ~~difference~~ and a minimized ~~the~~ time difference for which the rms value of the time  
difference is minimized ~~minimised~~ is selected from the range of the possible time differences.

7. (currently amended) ~~The~~ An electrical signalling system according to claim 1 ~~any one of~~  
~~the preceding claims, wherein in which~~ the transmission path further comprises an is imperfect  
transmission path.

8. (currently amended) ~~The~~ An electrical signalling system according to claim 1 ~~any one of~~  
~~the preceding claims, wherein in which~~ the transmission path further comprises an is inductive  
transmission path.

9. (currently amended) ~~The~~ An electrical signalling system according to claim 1 ~~any one of~~  
~~the preceding claims, wherein in which~~ the transmission path further comprises ~~is~~ a three-phase  
electrical supply cable.

10. (currently amended) ~~The~~ An electrical signalling system according to claim 9, wherein in  
which the three-phase electrical supply cable leads to downhole equipment for extraction of at  
least one of oil and ~~or~~ gas.

11. (currently amended) ~~The~~ An electrical signalling system according to claim 1 ~~any one of the preceding claims, wherein in which~~ the demodulator also detects unlike signal edges and then detects a second ~~the~~ time difference therebetween.

12. (currently amended) ~~The~~ An electrical signalling system according to claim 1 ~~any one of the preceding claims, wherein in which~~ the modulator is adapted to include multiple sources of data consecutively.

13. (currently amended) ~~The~~ An electrical signalling system according to claim 12, wherein in ~~which~~ the modulator includes (n+1) signals, including n signals of information to be encoded and a synchronization ~~synchronisation~~ signal.

14. (currently amended) ~~The~~ An electrical signalling system according to claim 13, wherein in ~~which~~ the synchronization ~~synchronisation~~ signal takes the form of a unique pulse.

15. (currently amended) ~~The~~ An electrical signalling system according to claim 14, wherein in ~~which~~ the unique pulse has is a unique pulse size at most one of shorter and or longer than the limits of acceptable pulse size for ~~the~~ encoded data.

16. (currently amended) ~~The~~ An electrical signalling system according to claim 14, wherein in ~~which~~ the unique pulse is at a different signal level than to the alternating signal ~~signals~~ conveying encoded information.

17. (currently amended) ~~The~~ An electrical signalling system according to claim 1 ~~any one of the preceding claims, wherein in which~~ the data is encoded such that a specific range of pulse times corresponds ~~correspond~~ to at least one of a specific value of input information and ranges

~~or range~~ of values of the input information.

18. (currently amended) ~~The~~ An electrical signalling system according to claim 17, wherein in ~~which~~ the ranges of values of the input information are of substantially identical width.

19. (currently amended) ~~The~~ An electrical signalling system according to claim 17, wherein in ~~which~~ the ranges of values of the input information are of variable width.

20. (currently amended) ~~The~~ An electrical signalling system according to claim 1 ~~any one of the preceding claims, wherein in which~~ a first signal indicates a ~~the~~ coarse range of values of the input information and a second signal indicates at least one of a specific value of the input information within the coarse range of values and a ~~the~~ fine range of values within the coarse range of values ~~value~~ of the input information.

21. (currently amended) ~~The~~ An electrical signalling system according to claim 20, wherein in ~~which~~ the first signal is encoded according to a different protocol than ~~to~~ the second signal.

22. (currently amended) ~~The~~ An electrical signalling system according to claim 1, wherein in ~~which~~ the record comprises ~~consists of~~ at least one selected value ~~values~~ of the alternating signal at at least one selected time ~~times~~.

23. (currently amended) ~~The~~ An electrical signalling system according to claim 22, wherein in ~~which~~ the at least one selected value comprises a plurality of selected values and the at least one selected time comprises ~~there are~~ a plurality of selected times.

24. (currently amended) ~~The~~ An electrical signalling system according to claim 22 ~~or claim 23, wherein in which~~ the at least one selected time is chosen by reference to an alternating ~~the~~ signal value.

25. (currently amended) ~~The~~ An electrical signalling system according to claim 24, wherein in ~~which the an~~ at least one selected time is a ~~the~~ time at which the alternating signal crosses a value intermediate ~~the~~ values between which the alternating signal alternates.

26. (currently amended) ~~The~~ An electrical signalling system according to claim 1 ~~any one of the preceding claims, wherein in which~~ the demodulator is arranged to compare the subsequent part ~~comparison~~ of the alternating signal with ~~and~~ the record is by way of comparing alternating ~~the~~ signal values at specific times.

27. (currently amended) ~~The~~ An electrical signalling system according to claim 22 ~~any one of claims 22 to 25, wherein in which~~ the demodulator is arranged to compare the subsequent part ~~comparison~~ of the alternating signal with ~~and~~ the record is by way of comparing ~~the~~ times at which specific alternating signal values are detected.

28. (currently amended) An electrical signalling system ~~substantially as, the electrical~~  
signalling system comprising:  
means for electrical signalling;  
means for enabling the means for electrical signalling; and  
means for using the means for electrical signalling, wherein each of the means for  
electrical signalling, the means for enabling the means for electrical signalling, and the  
means for using the means for electrical signalling cover at least one of corresponding  
structures and materials described herein ~~with reference to and/or as illustrated in the~~  
~~accompanying figures~~ and equivalents thereof.
29. (new) A method of electrical signalling, the method of electrical signalling comprising:  
modulating using a modulator by:  
accepting information; and  
producing an alternating signal comprising repeated rising and falling edges  
in which the information is encoded, the encoding being by way of a time difference  
between at least one of consecutive rising edges and consecutive falling edges;  
transmitting the alternating signal over a transmission path from the modulator to a  
demodulator, and  
demodulating using the demodulator by:  
detecting a signal edge;  
storing a record of the alternating signal around the signal edge; and  
comparing a subsequent part of the alternating signal with the record to  
detect a like signal edge and detect the time difference between the signal edge and  
the like signal edge.

30. (new) The method of electrical signalling of claim 29, wherein the record is in the form of a digitized version of the alternating signal.